

## **FRONT SIDE ILLUMINATED PHOTODIODE WITH BACKSIDE BUMP**

### **Abstract of the Disclosure**

This invention relates to a novel optoelectronic chip with one or more optoelectronic devices, such as photodiodes, fabricated on a front side of a semiconductor wafer and contacts on a backside of the semiconductor wafer. The backside contacts can be contact bumps, which allow the optoelectronic chip to achieve the benefits of flip chip packaging without flipping the optoelectronic chip upside down with respect to a chip carrier. In an optical communication system, a photodiode chip can be backside bumped to a chip carrier or an electronic chip, allowing front side illumination of the photodiode chip. Front side illumination offers many benefits, including improved fiber alignment, reduced manufacturing time, and overall cost reduction.

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